

SILICA REINFORCED RUBBER COMPOSITION
AND ARTICLE WITH COMPONENT THEREOF, INCLUDING TIRES

The present invention relates to the preparation of silica reinforced rubber compositions and to articles of manufacture which contain at least one component comprised thereof. Such article of manufacture may be a tire. The silica reinforced rubber composition comprises at least one elastomer, silica, and an organo-metal additive of least one of organo-tin, organo-titanium, and/or organo-zirconium compound, preferably to an exclusion of additional additives to the rubber composition which will readily react with hydroxyl groups (e.g. silanol groups) on the surface of the silica to create an alcohol such as, for example, alkylsilane, alkoxysilane, and bis-(3-alkoxysilylalkyl) polysulfide compounds. Such organo-metal compound may have a valance of four and in the case of the organo-tin compound may have a valance of four or two, preferably four. Such organo-metal compound may be selected from, for example, dibutyltin dilaurate, tin(II) 2-ethylhexanoate, dibutoxytitanium bis-2,4-pentanedionate, and dibutoxyzirconium bis-2,4-pentanedionate.